| Wh | at is claimed is: |
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| 1 | 1. A process carried out in a usage measuring server to provide access to data, comprising the steps |
| 2 | of: |
| 3 | receiving via an internet session a log in communication from a user desiring access |
| 4 | to data and using the user name and password in said log in communication to authenticate said |
| 5 | user; |
| 6 | sending a message over the internet to the user's browser which will display on the |
| 7 | user's computer a page with links or commands that can be activated to select which entity |
| 8 | represented by a data entry in a data structure in said usage measuring server and which usage |
| 9 | data and/or metric data and/or CSU data the user would like to access; |
| 10 | receiving a message over the internet indicating which data the user |
| 11 | would like to access; |
| 12 | locating the data entry that corresponds to the user for which data is to be accessed |
| 13 | and following pointers from said data entry to the desired data to be accessed; and |
| 14 | sending one or more messages to said user including the data requested by the use |
| 15 | so as to cause the requested data to be displayed on said user's computer. |
| | |
| 1 | 2. The process of claim 1 where all messages back and forth between said user and said |
| 2 | usage measuring server are in a secure HTTPS protocol. |
| 1 | 3. The process of claim 1 further comprising the step of checking configuration data to verify |
| 2 | that the authenticated user is allowed to have access to the data she requested to access, and |
| 3 | blocking access if said configuration data indicates that the user has no access privileges to the data |
| J | blocking access it said seringateurs and access the said seringateurs. |
| 1 | 4. A process carried out in a usage measuring server to provide access to data, comprising |
| 2 | the steps of: |
| 3 | 1) receiving via an internet session a log in communication from a user desiring |
| 4 | access to data and using the user name and password in said log in communication to |
| 5 | authenticate said user; |

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2) sending a secure message over the internet to the user's browser which will

display on the user's computer a page with links or commands that can be activated to select

which entity represented by a data entry in a data structure in said usage measuring server and

| 9 | which usage data and/or metric data and/or CSU data the user would like to access; |
|-----------|--|
| 10 | 3) receiving a secure message over the internet indicating which data of which entity |
| 11 | in said data structure the user would like to access; |
| 12 | 4) checking configuration data to verify whether or not this user has access privileges |
| 13 | to the data the user requested to access, and, if not, sending a message to said user indicating |
| 14 | no access; |
| 15 | 5) if the user does have access privileges to the requested data, locating the data |
| 16 | entry that corresponds to the user for which data is to be accessed and following pointers from |
| 17 | said data entry to the desired data to be accessed including all data in a tree structure of data |
| 18 | entries stemming from the data entry representing the entity designated in step 3; and |
| 19 | 6) sending one or more messages to said user including at least the data requested |
| 20 | by the user so as to cause the requested data to be displayed on said user's computer. |
| | |
| 1 | 5. The process of claim 4 wherein step 6 comprises sending all the data in the tree structure |
| 2 | stemming from the data entity designated in step 3 in one or more secure messages for display on |
| 3 | the user's computer. |
| | |
| 1 | The process of claim 4 wherein said secure messages are sent using the HTTPS protocol. |
| | |
| 1 | 7. A server apparatus programmed to: |
| 2 | receive via an internet session a log in communication from a user desiring access to |
| 3 | data and using the user name and password in said log in communication to authenticate said |
| 4 | user; |
| 5 | send a message over the internet to the user's browser which will display on the |
| 6 | user's computer a page with links or commands that can be activated to select which entity |
| 7 | represented by a data entry in a data structure in said usage measuring server and which usage |
| 8 | data and/or metric data and/or CSU data the user would like to access; |
| 9 | receive a message over the internet indicating which data the user would like to |
| 10 | access; |
| 11 | locate the data entry that corresponds to the user for which data is to be accessed |
| 12 | and follow pointers from said data entry to the desired data to be accessed; and |
| 13 | send one or more messages to said user including the data requested by the user so |
| 14 | as to cause the requested data to be displayed on said user's computer. |

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- 8. The apparatus of claim 3 wherein said server apparatus of programmed to exchange 1 messages with said user using a secure protocol such as HTTPS. 2
- 9. The apparatus of claim 7 wherein said server is further programmed to check configuration data to verify that the authenticated user is allowed to have access to the data to which she requested access, and blocking access if said configuration data indicates that the user has no access privileges to the data. 4
 - 10. A server computer programmed with program means for:
 - 1) receiving via an internet session a log in communication from a user desiring access to data and using the user name and password in said log in communication to authenticate said user:
 - 2) sending a secure message over the internet to the user's browser which will display on the user's computer a page with links or commands that can be activated to select which entity represented by a data entry in a data structure in said usage measuring server and which usage data and/or metric data and/or CSU data the user would like to access;
 - 3) receiving a secure message over the internet indicating which data of which entity in said data structure the user would like to access;
 - 4) checking configuration data to verify whether or not this user has access privileges to the data the user requested to access, and, if not, sending a message to said user indicating no access:
 - 5) if the user does have access privileges to the requested data, locating the data entry that corresponds to the user for which data is to be accessed and following pointers from said data entry to the desired data to be accessed including all data in a tree structure of data entries stemming from the data entry representing the entity designated in step 3; and
 - 6) sending one or more messages to said user including at least the data requested by the user so as to cause the requested data to be displayed on said user's computer.
- 11. The apparatus of claim 10 further comprising program means for sending all the data in 1 the tree structure stemming from the data entity designated in function 3 in one or more secure $\mathbf{2}$ messages for display on the user's computer. 3
- 12. A process for providing web access to data in a data structure representing a distribution 1 structure for resources licensed on a usage basis, comprising the steps of: COM-002.7D Spec 4/01.doc

| 3 | receiving a log in communication from a user wishing to access data in the data |
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| 4 | structure which includes a user name and password or other information from which the user can |
| 5 | be authenticated; |
| 6 | 2) authenticating said user; |
| 7 | 3) sending a secure message to said user's browser to cause it to display a page |
| 8 | with links or commands that can be invoked to ask the user what she wants to do; |
| 9 | 4) receiving one or more secure messages from said user indicating the user wishes |
| 10 | to access data of a particular entity represented by a data entry in said data structure; |
| 11 | 5) locating a data entry in said data structure which represents the entity whose data |
| 12 | the user wishes to access and following pointers from that data entry to other data entries at a |
| 13 | first level down in a tree structure of data stemming from the data entry representing said entity; |
| 14 | 6) generating a link for every data entry found in step 5; |
| 15 | 7) sending the links generated in step 6 back to the user in one or more secure |
| 16 | messages which will cause said user's browser to display said links; |
| 17 | 8) receiving a secure message indicating which links the user selected indicating |
| 18 | which data the user wishes to access and accessing the required data and sending it in one or |
| 19 | more secure messages to the user so as to cause the user's browser to display the requested |
| 20 | data; |
| 21 | sending one or more secure messages to said user which will cause the user's |
| 22 | browser to display a message querying whether the user wishes to see any more data in said |
| 23 | tree structure below the level of the data she just accessed; |
| 24 | 10) if the user wants to see more data, receiving one or more messages so indicating |
| 25 | and repeating steps 4 through 10 until the data in the tree structure is exhausted or the user stops |
| 26 | requesting access to data. |
| | |
| 1 | 13. The process of claim 12 where step 7 includes the step of sending descriptive data |
| 2 | encoding text indicating what the data entries found in step 5 are and/or what they contain. |
| 1 | 14. A process for providing web access to data in a data structure representing a distribution |
| 2 | structure for resources licensed on a usage basis, comprising the steps of: |
| 3 | 1) receiving a log in communication from a user wishing to access data in the data |
| 4 | structure which includes a user name and password or other information from which the user can |
| 5 | be authenticated; |
| 6 | 2) authenticating said user; |
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| 7 | 3) sending a secure HTTPS message to said user's browser to cause it to display a |
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| 8 | page with links or commands that can be invoked to ask the user what she wants to do; |
| 9 | 4) receiving one or more secure HTTPS messages from said user indicating the user |
| 10 | wishes to access data of a particular entity represented by a data entry in said data structure; |
| 11 | 5) checking configuration data to verify whether said user has access privileges to |
| 12 | the requested data, and, if not, sending a message to said user's browser indicating access is |
| 13 | denied; |
| 14 | if said user has access privileges to the requested data, locating a data entry in |
| 15 | said data structure which represents the entity whose data the user wishes to access and |
| 16 | following pointers from that data entry to other data entries at a first level down in a tree structure |
| 17 | of data stemming from the data entry representing said entity; |
| 18 | 7) generating a link for every data entry found in step 6; |
| 19 | 8) sending the links generated in step 7 back to the user in one or more secure |
| 20 | messages which will cause said user's browser to display said links; |
| 21 | receiving a secure message indicating which links the user selected indicating |
| 22 | which data the user wishes to access and accessing the required data and sending it in one or |
| 23 | more secure messages to the user so as to cause the user's browser to display the requested |
| 24 | data; |
| 25 | 10) sending one or more secure messages to said user which will cause the user's |
| 26 | browser to display a message querying whether the user wishes to see any more data in said |
| 27 | tree structure below the level of the data she just accessed; |
| 28 | 11) if the user wants to see more data, receiving one or more messages so indicating |
| 29 | and repeating steps 4 through 11 until the data in the tree structure is exhausted or the user stops |
| 30 | requesting access to data. |
| 1 | 15. A server programmed to: |
| 2 | receive a log in communication from a user wishing to access data in the data |
| 3 | structure which includes a user name and password or other information from which the user can |
| 4 | be authenticated; |
| 5 | 2) authenticate said user; |
| 6 | send a secure HTTPS message to said user's browser to cause it to display a |
| 7 | page with links or commands that can be invoked to ask the user what she wants to do; |
| 8 | 4) receive one or more secure HTTPS messages from said user indicating the user |
| 9 | wishes to access data of a particular entity represented by a data entry in said data structure; |
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| check configuration data to verify whether said user has access privileges to the |
|---|
| requested data, and, if not, sending a message to said user's browser indicating access is |
| denied; |
| 6) if said user has access privileges to the requested data, locate a data entry in sa |

- 6) if said user has access privileges to the requested data, locate a data entry in said data structure which represents the entity whose data the user wishes to access and following pointers from that data entry to other data entries at a first level down in a tree structure of data stemming from the data entry representing said entity;
 - 7) generate a link for every data entry found in step 6;
- 8) send the links generated in step 7 back to the user in one or more secure messages which will cause said user's browser to display said links;
- 9) receive a secure message indicating which links the user selected indicating which data the user wishes to access and accessing the required data and sending it in one or more secure messages to the user so as to cause the user's browser to display the requested data;
- 10) send one or more secure messages to said user which will cause the user's browser to display a message querying whether the user wishes to see any more data in said tree structure below the level of the data she just accessed;
- 11) if the user wants to see more data, receive one or more messages so indicating and repeat steps 4 through 11 until the data in the tree structure is exhausted or the user stops requesting access to data.